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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/509,351

09/28/2004

Masaya Nakamura

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4039

23377 7590 01/11/2007  
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EXAMINER

GREENE, JASON M

ART UNIT

PAPER NUMBER

1724

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/11/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/509,351

Applicant(s)

NAKAMURA, MASAYA

Examiner

Jason M. Greene

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/16/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claims***

1. The Examiner suggests Applicants rewrite the word "value" in line 5 of claim 9 as "values" to correct a minor grammatical informality.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Application Publication JP 7-189654.

JP 7-189654 discloses an exhaust emission purifying apparatus for performing a purification process on exhaust gas emitted from an engine (11) for an industrial vehicle comprising a collection section (12) that collects particulates contained in the exhaust gas emitted from the engine, a detection section that detects information on the amount of particulates collected at the collection section, a temperature adjustment mechanism that adjusts the temperature of the exhaust gas, which effects the collection section, to

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a predetermined temperature corresponding to the combustion temperature of the particulates, and a control section (ECU 14) that controls the temperature adjustment mechanism on the basis of the information detected at the detection section, wherein the temperature adjustment mechanism is constructed with at least an injection amount adjustment section (131) that adjusts the amount of fuel injected to the engine, an engine load adjustment section that adjusts the load on the engine (by adjusting the fuel injection amount), and an air intake restriction adjustment section (13) that performs restriction adjustment of the amount of air intake to the engine, wherein the engine includes a throttle (131) opening degree value and when the amount of the collected particulate is equal to or more than a predetermined threshold value, the control section controls the injection amount adjustment section such that the value of the engine speed becomes equal to or greater than a predetermined first reference value and also controls the engine load adjustment section such that the value of the throttle opening degree become equal to or greater than a predetermined second reference value, and further control section controls the air intake restriction adjustment section to restrict the amount of air intake to the engine, wherein the temperature adjustment mechanism further includes a fuel injection timing adjustment section (132) that adjusts the timing of the fuel injection for the engine, wherein when the temperature of the exhaust gas at the outlet of the collection section is higher or lower than a determination temperature that is higher than the target temperature, the fuel injection timing adjustment mechanism advances or delays, respectively, the timing of the fuel injection in Figs. 1, 10, 11, 15, 19 and 21 and paragraphs [0026] to [0054] of the English language translation.

4. Claims 7-11, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Application Publication JP 7-189654.

JP 7-189654 discloses a method for performing a purification process on exhaust gas emitted from an engine (11) for an industrial vehicle comprising collecting (using filter 12) the particulates in the exhaust gas emitted from the engine, detecting information on the amount of the collected particulates (using differential pressure detector 15), and controlling the amount of fuel injected to the engine and an engine load (using throttle 131), and the amount of air intake to the engine (using valve 13) based on the detected information, thereby setting the temperature of the exhaust gas, which affects the collected particulates, to a predetermined target temperature corresponding to the combustion temperature of the same particulates, wherein setting the temperature of the exhaust gas to a predetermined target temperature corresponding to the combustion temperature of the particulates includes controlling the engine speed and the amount of fuel injected to values equal to or greater than predetermined values set as the minimum, raising the temperature of the exhaust gas by controlling the air intake restriction of the engine and the timing of the fuel injection, and controlling the engine load and the amount of fuel injection such that the temperature of the exhaust gas becomes equal to or higher than the target temperature, wherein the fuel injection timing is advanced or delayed when the temperature of the exhaust gas at the outlet of the collection section is higher or lower, respectively, than a determination temperature that is higher than the predetermined temperature in Figs. 1,

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10, 11, 15, 19 and 21 and paragraphs [0026] to [0054] of the English language translation.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application Publication JP 7-189654 in view of Japanese Patent Application Publication JP 8-60705.

JP 7-189654 does not disclose the engine load adjustment section including a hydraulic pump driven by the engine and a hydraulic pressure adjustment mechanism that is connected to the hydraulic pressure pump that adjust the hydraulic pressure.

JP 8-60705 discloses a similar system comprising an engine load adjustment section including a hydraulic pump (12) driven by the engine (1) and a hydraulic pressure adjustment mechanism (8) that is connected to the hydraulic pressure pump that adjust the hydraulic pressure in Figs. 1 and 4 and paragraphs [0007] to [0022] of the English language translation.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the hydraulic pump and pressure adjustment measurement of JP 8-60705 into the system of JP 7-189654 to reduce the amount of black smoke emitted from the engine during high load operation, especially when the engine is used in earth moving equipment, as suggested by JP 8-60705 in paragraphs [0001] to [0006] of the English language translation.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Hamahata, Ohtake et al., Igarashi et al., Okugawa et al., Koga et al. '342, Koga et al. '247 and Kondou et al. references disclose similar exhaust emission purification systems.

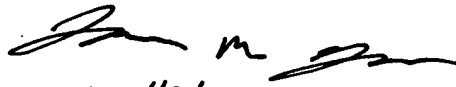
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M. Greene  
Primary Examiner  
Art Unit 1724

  
1/7/06

jmg  
January 7, 2006